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Nursing & HEALTH CARE

VOLUME 5, NUMBER 4 APRIL 1984

DRGs as a Power Base

Official Publication of the National League for Nursing

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Lancaster, Pennsylvania 17604

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Redondo Beach, Calif. 213/316-2158.

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NURSING & HEALTH CARE (ISSN 0276-5284) is published monthly (except July and August) by the Health Science Division of Technomic Publishing Company, Inc., 851 New Holland Avenue, Box 3535, Lancaster, PA 17604. Members of the National League for Nursing receive NURSING & HEALTH CARE as a membership benefit. Subscription rates for nonmember individuals: $17 one year, $29 two years; libraries and institutions: $25 one year, $45 two years; Outside U.S. add $10 per year for postage. Second-class postage paid at Lancaster, PA, and additional mailing offices. POSTMASTER: Send address changes to Nursing & Health Care, 851 New Holland Avenue, Box 3535, Lancaster, PA 17604. Copyright 1984 by Technomic Publishing Company, Inc., except where otherwise noted. Printed in U.S.A. All rights reserved. Reproduction in whole or in part without written permission is prohibited.

Nursing & HEALTH CARE

VOLUME 5, NUMBER 4 *APRIL 1984*

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The editorial policy of NURSING & HEALTH CARE is to offer diverse views on subjects of interest to readers. Articles represent the opinions of individual contributing authors and are not necessarily those of the editors nor the National League for Nursing.

Official Publication of the National League for Nursing

Congruence Among Primary Nurses in Their Perception of Their Nursing Functions

GWEN MARRAM VAN SERVELLEN & CARL JOINER

What can be generalized about the nursing practice in hospitals claiming to have primary nursing? The answer is, to this date, obscure.

The nursing practices in one primary nursing system cannot be totally correlated with those in another system. This will always be the case, since the numerous variables affecting nursing practice cannot be completely controlled or accounted for. We cannot even be certain that very basic nursing functions are carried out similarly.

The following article discusses an important approach to clarifying the similarities and differences in primary nursing practices by reporting the results of a study of primary nurses' perceptions of their basic functions in four different hospitals.

Although beginning research and evaluation in the area of primary nursing have, for the most part, led to some generalizations about the effectiveness of the modality over others, it is premature to suggest that these positive outcomes are arrived at through exactly the same means.

Primary nursing, as defined by Marram Van Servellen, *et al.*, is a philosophy and mode of organizing the delivery of nursing care in the hospital and is distinctly different from other modalities [*1*]. The total care of an individual patient is the responsibility of one nurse, the primary nurse, who assesses, plans, and implements the patient's care when she is on duty. The goals of the primary nursing system are to provide continuous, comprehensive, coordinated, individualized, patient-centered care. The primary nurse accepts authority, autonomy, and accountability for the care of a small caseload of patients throughout their hospitalization. When the primary nurse is not on duty, an associate nurse (who may be an RN or LPN) gives total patient care to the primary nurse's patients. For the most part, evaluation research would suggest that hospitals differ in the degree to which a change is undertaken and that, under uncontrolled conditions, all hospitals would not practice a single change in the same way. We have every reason to believe that the adoption of primary nursing in hospitals, now over a decade old, would demonstrate this simple principle-of-change theory. That is to say, wide variation should exist.

Nonetheless, the issue of commonalities and differences in primary nursing practices has virtually gone unresearched. Multiple-hospital studies measuring either the process or outcome variance among primary nursing units are absent from the literature. Marram Van Servellen, in a mailed survey to 300 hospitals in the United States known to be practicing primary nursing, concluded that both commonalities and differences existed in the hospitals surveyed [*2*]. The researcher further explained that the definition of the role of the primary nurse, the presence of specific objectives for the unit, the presence of individualized care plans, and assessments as a permanent part of the chart seem to be areas of congruence among those hospitals surveyed. However, there were differences in hospitals as to the ratio of patients to staff, depending upon whether a primary, primary team, or modular system was employed. There were also differences among hospitals with regard to the role of the primary nurse on weekends, and whether a number of supplementary operations (for example, peer-review, problem-oriented recordings, and standardized care plans) were used. In addition, over half of the hospitals identified unique aspects of their operation, indicating further variation in practice.

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The Study

In an attempt to shed light on the variance or convergence in primary nursing practice, Marram Van Servellen, *et al.*, took a closer look at primary nurses' perceptions of seven basic nursing functions.* It was assumed that the basic philosophical and organizational premises of the primary nursing modality would produce a degree of congruence in primary nurses' perceptions of their functioning. For example, it was assumed that comprehensive, individualized patient care—objectives of the primary system—may result in high levels of importance assigned by nurses to such functions as providing emotional support and teaching. If these philosophical concepts were translated into practice imperatives (for example, one-to-one personalized care), we might also expect to see nurses spending a great deal of time fulfilling this role requirement with all of their patients. Likewise, it was assumed that, because these objectives are integral to the primary nursing system, primary nurses, across hospitals, would converge in their beliefs and perceptions of this function.

Secondly, it was assumed that a focus on patient-centered care, another important objective of primary nursing, would place unit management low in priority (in both importance and time spent) in the minds of primary nurses in general and that this might be an area of convergence for primary nurses. Because no research has been conducted to date that summarized the commalities and/or differences in primary nurses' perceptions of these basic functions across hospitals, there was little basis upon which to express these assumptions in hypothetical terms.

The study design was a descriptive design with comparative purpose. The null hypothesis was stated as such:

There will be no significant differences in primary nurses' perceptions of their functions across three different hospitals.

- The level of importance attributed to each function will be similar.
- The perceived time spent in completing each function will be similar.
- The perceived proportion of patients for which the function is completed will be similar.

Sample: Nursing staff from three hospitals made up the study's sample. Hospitals participating in the study shared the following commonalities:

- All of the hospitals serve as teaching-learning centers for schools of nursing and medicine.
- All of the hospitals were considered general service, acute care hospitals; extended care was not integral to the services rendered.
- All of the hospitals had been prac-

*This study was a subphase of a larger, comparative study measuring the relative cost-effectiveness of primary units in the hospitals described here.

Table 1. Sample: Staff Per Level on Each Unit.

		RNs	LPNs	Aides	Totals
Hospital A	Unit 1 (24-bed orthopedic unit)	16	3	2	21
	Unit 2 (33-bed medical-surgical unit)	13	0	4	17
Hospital B	Unit 3 (26-bed cardiorespiratory unit)	13	4	0	17
	Unit 4 (21-bed general medical unit)	13	4	0	17
Hospital C	Unit 5 (27-bed medical-surgical unit)	10	3	6	19

ticing primary nursing on their units a minimum of eight months.
- All of the hospitals ranged in size from 350 to 550 beds.
- All of the hospitals were accredited by the Joint Commission on Accreditation for Hospitals.

In addition, only those units were sampled whose staff were mostly licensed staff. In all instances, the primary nurse role was defined as that of care planner *and* total patient-care giver. In essence, the primary nurse planned, coordinated, and carried out care for a small caseload of patients, including completing an assessment, drawing up a care plan, and involving both patient and family in this care.

Table 1 depicts the breakdown of staff, by level, on each unit participating in the study.

Note that, in all instances, the sample of licensed personnel was at least 50 percent of the total staff; in four instances (units 1, 2, 3, and 4), licensed staff accounted for three-fourths or more of the entire staff.

Units ranged in bed capacity from 21 to 34 beds; all units rendered either medical-surgical or medical service.

Survey

The concept of nursing functions developed here was first tested and used by Scott, Dornbusch, and Smith in their research on organizational authority in hospitals and schools [*3*]. The questionnaire for this study was tested for content validity and reliability (test-retest) and has subsequently been administered to approximately 810 nurses in 10 different hospitals.

Nurses in this study were asked to identify the importance, time spent, and proportion of patients for which the function was performed, using a five-point Likert scale for importance and proportion of patients, as well as an interval scale (containing seven divisions) for time spent. The functions were described as such:

1. Carrying out doctors' orders: includes administering treatments and giving medications.
2. Unit management: includes all activities necessary to manage or coordinate patient care; for instance, supervising staff, ordering supplies, and scheduling tests.
3. Assisting patients to complete daily activities: includes assisting patients with eating, ambulating, and bathing.
4. Providing for physical comfort related to the nursing care plan: includes PRN medication and positioning.
5. Providing emotional support and teaching to the patient and family: includes listening to patients' fears and concerns and giving the patient and his family reassurance, as well as teaching self-care.
6. Record keeping: includes charting in nurses' notes, adding to the care plan, and recording a nursing assessment.
7. Observing and assessing the patient and his family: includes diagnosing and evaluating patient's and family's response to illness and hospitalization.

Data Analysis

The statistical test used to assess the degree of differences in nursing functions among the three hospitals was the median test [*4*]. The median test is used to determine whether several samples come from a given population with the same median. This test is an extension of the more widely used chi-squared test for contingency tables.

The median was chosen as an appropriate measure for several reasons. If the distribution is skewed, the median is a more appropriate measure than the arithmetic mean. Additionally, the median is a proper test when some of the response categories are open-ended, as is the case in this response for time spent on nursing functions. Lastly, there was a desire for some measure of central tendency to examine a typical or representative measure for the several aspects of the seven nursing functions.

The basic hypothesis of the median test is that all three samples have the same median, versus the alternative hypothesis that at least two of the samples have different medians. The concept of the test is that all the samples (three in this case) are combined and that a grand median is determined, which is a measure that is exceeded by half the observations.

For each of the 21 tests (seven nursing functions each for importance, time, and proportion of patients), a 2 × 4 contingency table was devised. The test statistics are calculated from the following formula:

$$T = \frac{N^2}{ab} \sum_{i=1}^{3} \frac{0_{ij} - hja/N}{nj}$$

after obtaining the test statistic (T), a chi-squared table of values is used for the desired level of significance and degrees of freedom. In this application, a .05 level of significance was used, and 2 degrees of freedom (three samples less one) were appropriate.

Findings

Two measures of central tendency were employed in analyzing the results. Median responses of the sample in each hospital are presented in Tables 2, 3, and 4. The median is the value from the data set that measures the central item in the data. This item is the most central item and, as such, represents a measure of central tendency or commonality. Half of the items lie above the median and the other half lie below it.

One can see from Table 2—the perceived importance of nursing functions—that there are some differences in the majority's view of

these functions across all three hospitals. However, with the exception of unit management and record keeping, all other functions are deemed very or extremely important. Note that the rank order of these functions in each hospital depicts perfect convergence on only two functions: perceived importance of observing and assessing and perceived importance of assisting patients to complete daily care activities. The function providing emotional support and teaching was deemed very important in hospital A and extremely important in hospitals B and C, and unit management was rated moderately important in hospitals A and B and very important in hospital C.

In Table 3, greater variance in median responses arises in perceived time spent on these functions. Functions showing the greatest fluctuation in perceived time spent are unit management and assisting patients to complete daily activities, where time spent ranges from 1–2 hours to 3 hours. Note that the category providing emotional support and teaching is allotted 40–60 minutes in hospital A, 1–2 hours in hospital B, and 1 hour in hospital C. The only other function allotted the same time or less is observing and assessing the patient and his family.

In Table 4, depicting the proportion of patients for which the nurse performs a function, all or most categories are the median response pattern for all RNs across all functions. Note that perfect convergence exists with respect to the functions carrying out doctors' orders, unit management, record keeping, and observing and assessing. However, for the functions assisting patients to complete daily care, providing physical comfort, and providing emotional support, primary nurses differ in whether they administer to all or most patients.

Whereas the median is a basic measure of convergence in staff perceptions, a test of the differences using the median test described in the preceding section will indicate whether the differences or similarities are significant.

Although some variation is apparent in the average response of primary nurses in each institution, we need to examine whether significant differences exist. In order to reject the null hypothesis—that is, the notion that there is no significant difference in primary nurses' perceptions of their function—we would need a T statistic value equal to, or greater than, 5.99.

What Table 5 shows us is that none of the T scores is equal to or exceeds this value. Therefore, we would conclude, on the basis of this analysis, that primary nurses in all three hospitals perceive their basic functions equally. In more statistically related terms, the basic hypothesis cannot be rejected, and one would conclude, based on this research, that nurses' perceptions of the importance of, amount of time spent on, and proportion of patients involved in the seven identified functions are equal.

Table 2. Median Response on Degree of Importance/Rank Order of Nursing Functions.

Function	Hospital A	Hospital B	Hospital C
1. Carrying out doctor's orders	Very (2)	Extremely (1)	Very (2)
2. Unit management	Moderately (3)	Moderately (3)	Very (2)
3. Assisting patient to complete daily care activities	Very (2)	Very/Extremely*	Very (2)
4. Providing physical comfort	Very (2)	Extremely (1)	Extremely (1)
5. Providing emotional support and teaching to patient and family	Very (2)	Extremely (1)	Extremely (1)
6. Record keeping	Moderately/ Very* (3)	Very (2)	Very (2)
7. Observing and assessing the patient and his family	Extremely (1)	Extremely (1)	Extremely (1)

*For these entries, the median actually fell between the two adjoining classes.

Table 3. Median Response on Amount of Time Spent on Nursing Functions.

Function	Hospital A	Hospital B	Hospital C
1. Carrying out doctor's orders	1-2 hrs.	1-2 hrs.	3+ hrs.
2. Unit manager	1-2 hrs.	2-3 hrs.	3+ hrs.
3. Assisting patient to complete daily care activities	1-2 hrs.	2-3 hrs.	3+ hrs.
4. Providing physical comfort	1-2 hrs.	1-2 hrs.	1 hr.*
5. Providing emotional support and teaching to patient and family	40-60 min.	1-2 hrs.	1 hr.*
6. Record keeping	1-2 hrs.	1-2 hrs.	40-60 min.
7. Observing and assessing the patient and his family	40-60 min.	40-60 min.	40-60 min.

*For these entries, the median actually fell between the two adjoining classes.

Summary and Discussion

Variations among RNs in the three different hospitals were found to exist in their average (median) perception

Table 4. Median Response on Proportion of Patients for When Nursing Functions are Provided.

Function	Hospital		
	A	B	C
1. Carrying out doctor's orders	All	All	All
2. Unit management	Most	Most	Most
3. Assisting patient to complete daily care activities	Most	Most/All*	Most
4. Providing physical comfort	Most	All	All
5. Providing emotional support and teaching to patient and family	Most	All	Most
6. Record keeping	All	All	All
7. Observing and assessing the patient and his family	All	All	All

*For these entries, the median actually fell between the two adjoining classes.

Table 5. Results of Test Statistic for the Median Test.

	Function's Importance	Function's Time	Number of Patients
1. Carrying out doctor's orders	4.22	3.79	0
2. Unit management	1.35	4.16	3.08
3. Assisting patient	3.44	4.03	1.65
4. Providing for physical comfort	0	.54	0
5. Providing for emotional support	0	.40	3.5
6. Record keeping	2.13	2.30	0
7. Observing and assessing patient	0	.09	0

of their basic functions. Some variation appeared in the importance attributed to unit management and record keeping, while all other functions were either extremely or very important. Greater variation was apparent in primary nurses' perception of the time spent on these functions.

However, with the results of the median test, one should feel relatively comfortable in asserting that there are no significant differences in primary nurses' perceptions of their functions in these hospitals and that this fact transcends the dimensions of importance, time spent, and proportion of patients for whom the primary nurse completes the function.

This study was the first of its kind to compare the perceptions of primary nursing staff in multiple hospitals. A focus on nurse perceptions is one approach to a study of commonalities and of differences in nursing practice. The argument that perceptual assessments may be biased is hardly new or original. One is reminded, however, that perceptions also mold what one does and how one actually performs on the job and that, to some extent, perceptions are a statement of what occurs. In this case, one might conclude that nursing is practiced the same way in different primary nursing settings. Future research should address multiple means of establishing the variation and congruence in the functioning of primary nursing staff. This would include random-moment sampling of functions performed to assess actual time spent, as well as staff and patient perceptions of functions performed.

Additional research should also focus on the "why" of convergence and variance. With a larger sample size, the subtle relationships of staff role, type of (nurse) education, hospital objectives for primary nursing, specific organizational features, and hospital reinforcement for functions performed—obviously important intervening variables—can be more adequately discussed as they impact upon nurses' functioning and their perceptions of their activities.

This beginning study in establishing the similarities and differences among the perceptions of primary nursing staff of their work suggests that hospitals are practicing primary nursing—at least the basic nursing functions—similarly. There is not a wide variation across hospitals in primary nurses' perception of their activities and the importance of various functions.

This finding should be applied with caution, however. It is inaccurate to conclude that all primary nursing systems are the same. Whereas no significant differences were found in relation to these basic functions, the subtle operations—the "how"—may be quite different. Nurse administrators must be aware that the "how" as well as the "what" are important ingredients in producing outcomes. Whereas they can perceive some security in the fact that primary nursing staff may perceive their basic nursing functions similarly, it has yet to be shown that they practice primary nursing alike. Under these conditions, such desired outcomes as increased patient satisfaction and greater levels of individualized patient care associated with the adoption of primary nursing are not guaranteed to occur.

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